Amendments to the Claims

Please cancel claims 3 and 4, amend claims 1, 2, 11 and 15, and add new claims 16 and 17 as shown in the following list of claims. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) An optical tracking assembly for an optical mouse, comprising:

a light source;

an optical sensor chip; and

an integral optics assembly, comprising:

lenses; and

light source alignment features receiving the light source, the light source alignment features centering the light source to the lenses and controlling a distance the light source is placed away from a navigation surface that reflects light onto the optical sensor chip, the light source alignment features including at least three guides for centering the light source, the light source alignment features further including a ledge within the guides for controlling the distance the light source is placed along a first optical axis away from the navigation surface.

2. (currently amended) The assembly of claim 1, wherein the lenses are selected from the group consisting of (1) collimating lenses for collimating light from the light source along ~~a~~ the first optical axis to the navigation surface, and (2) imaging lenses for imaging reflected light from the navigation surface along a second optical axis to the optical sensor chip.

3. (canceled).

4. (canceled).

5. (original) The assembly of claim 1, wherein the light source is a laser.

6. (original) The assembly of claim 1, further comprising a retention clip engaged to the integral optics assembly to lock in the light source.

7. (original) The assembly of claim 1, further comprising a printed circuit board (PCB) onto which the optical sensor chip is mounted.

8. (original) The assembly of claim 7, wherein integral optics assembly further comprises a sensor alignment hole for receiving a sensor alignment feature on the optical sensor chip.

9. (original) The assembly of claim 8, wherein the PCB defines a cutout that receives the integral optics assembly.

10. (original) The assembly of claim 1, further comprising a mouse base plate, wherein the integral optics assembly is mounted on the mouse base plate.

11. (currently amended) A method for assembling ~~assembly~~ an optical tracking assembly for an optical mouse, comprising:

mounting an optical sensor chip on a printed circuit board (PCB);

inserting an integral optics assembly through a cutout defined by the PCB until the sides of the integral optics assembly are flush against the cutout; and

inserting a light source in light source alignment features on the integral optics assembly, the light source alignment features centering the light source to lenses integral with the integral optics assembly, the light source alignment features further controlling a distance from the light source to a navigation surface, the light source alignment features including at least three guides for centering the light source, the light source alignment features further including a ledge within the guides for controlling the distance the light source is placed along a first optical axis away from the navigation surface.

12. (original) The method of claim 11, wherein said inserting an integral optics assembly through a cutout defined by the PCB further comprises inserting a sensor alignment feature on the optical sensor chip into a sensor alignment hole defined by the integral optics assembly.

13. (original) The method of claim 12, further comprising engaging a retention clip to the integral optics assembly to lock in the light source.

14. (original) The method of claim 13, further comprising mounting the integral optics assembly on a mouse base plate.

15. (currently amended) An optical tracking assembly for an optical mouse, comprising:

a light source;

a printed circuit board (PCB) defining a cutout;

an optical sensor chip mounted on the PCB, the optical sensor chip comprising a protruding alignment feature;

an integral optics assembly inserted at least partially through the cutout, the integral optics assembly comprising:

guides receiving the light source, the guides centering the light source along a first optical axis;

a ledge within the guides abutting the light source, the ledge controlling a distance of the light source along the first optical axis away from a navigation surface;

collimating lenses along the first optical axis for directing light from the light source onto the navigation surface;

imaging lenses for directing the light along a second optical axis from the navigation surface to the optical sensor chip; and

an alignment hole for receiving the protruding alignment feature on the optical sensor chip when the integral optics assembly is inserted at least partially through the cutout of the PCB; and

a retention clip engaged to the integral optics assembly to retain the light source.

16. (new) The assembly of claim 1, wherein the ledge is positioned within the guides such that the ledge is in contact with the light source.

17. (new) The method of claim 11, wherein the ledge is positioned within the guides such that the ledge is in contact with the light source.